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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/773,255	02/09/2004	Akira Fujibayashi	NITT.0179	7161

7590 03/16/2006  
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EXAMINER

ELAMIN, ABDELMONIEM I

ART UNIT PAPER NUMBER

2116

DATE MAILED: 03/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/773,255	<b>Applicant(s)</b> FUJIBAYASHI ET AL.	
	<b>Examiner</b> A Elamin	<b>Art Unit</b> 2116	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 09 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 6 is/are rejected.
- 7) ☒ Claim(s) 3-5 and 7-9 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☒ Certified copies of the priority documents have been received in Application No. 09/911,544.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>2/9/2004</u> . | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Drawings***

1. Figure 3 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g).

***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 6 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claims are generally narrative and indefinite, failing to conform with current U.S. practice. They appear to be a literal translation into English from a foreign document and are replete with grammatical and idiomatic errors.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art (AAPA) in view of Robinson et al, US. Pat. No. 6,570,867 (*cited by Applicant*).

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6. Claim 1, AAPA teaches a storage system comprising [*see Figs. 1-3 of the instant application*]:

a plurality of disk devices which includes a plurality of logical volumes [*disk devices 102 of Fig. 2*];

a plurality of disk control units each of which is connectable to the plurality of disk devices [*disk control units 109 of Fig. 2*];

a network which connects the plurality of disk control units each other [*element 210 of Fig. 2*]; and

a supervisor processor [*SVP 412 of Fig. 2*].

wherein each of plurality of disk control units comprises:

a plurality of first interfaces connectable to a host computer via a storage area network [*103 of Fig. 2*];

a plurality of second interfaces connectable to the plurality of disk devices [*disk interface port 104 of Fig. 2*]; and

a cache memory unit storing data temporary [*cache memory 108 of Fig. 2*];

wherein the plurality of first interfaces, the plurality of second interfaces and the cache memory of one of the plurality of disk control units are connected to the plurality of first interfaces, the plurality of the second interfaces and the cache memory of the other one of the plurality of disk control units by the network [*see Fig. 2 and related disclosure*].

AAPA fails to teach a supervisor processor that monitors and calculates an access frequency from the host computer to a one of the plurality of logical volumes by using a first logical path and a second logical path,

wherein the first logical path includes the storage area network, one of the plurality of first interfaces of the one of the plurality of disk control units and one of the plurality of second interfaces of the one of the plurality of disk control units,

wherein the second logical path includes the storage area network, one of the plurality of first interfaces of the other one of the plurality of the disk control units, the network and the one of the plurality of the second interfaces of the one of the plurality of disk control units.

Robinson teaches a routes and paths management for network management of communication networks by monitoring the network-level concepts of routes and paths [*abstract*], comprises monitoring, periodically, at least one route and the associated set of paths, and notifying a user to be able to manage and monitor routes and paths [*abstract, col. 2, line 57 thru col. 3, line 49*] .

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teaching of AAPA to a supervisor processor that monitors and calculates an access frequency from the host computer to a one of the plurality of logical volumes by using a first logical path and a second logical path, wherein the first logical path includes the storage area network, one of the plurality of first interfaces of the one of the plurality of disk control units and one of the plurality of second interfaces of the one of the plurality of disk control units, wherein the second logical path includes the storage area network, one of the plurality of first interfaces of the other one of the plurality of the disk control units, the network and the one of the plurality of the second interfaces of the one of the plurality of disk control units, because it allows the real-time determination of permissible paths having the requisite capability for the

transmission of data on a given set of routes and routing protocols [*see Robinson, col. 3, lines 13-43*].

7. Claim 2, AAP fails to teach a display as output part; wherein said supervise processor displays on said display a result of calculation based on monitoring an access from the host computer to a one of the plurality of logical volumes by using a first logical path and a second logical path.

Robinson teaches a display as output part [*Fig. 3*]; wherein said supervise processor displays on said display a result of calculation based on monitoring an access from the host computer to a one of the plurality of logical volumes by using a first logical path and a second logical path [*see sections 30-34 of Fig. 3 and related disclosure*].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teaching of AAPA to include a display as output part; wherein said supervise processor displays on said display a result of calculation based on monitoring an access from the host computer to a one of the plurality of logical volumes by using a first logical path and a second logical path, because it permits the user to specify the paths to be monitored [*see Robinson, col. 6, lines 17-19*].

***Allowable Subject Matter***

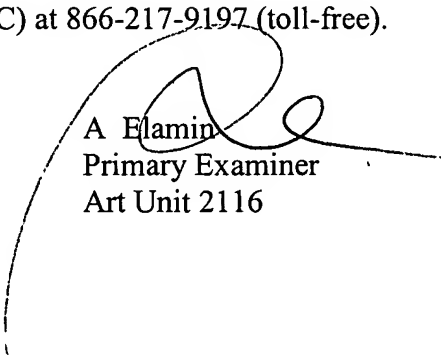
8. Claims 3-5, 7-9 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

*Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to A Elamin whose telephone number is (571) 272-3674. The examiner can normally be reached on MON-FRI 9:30 AM - 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynne Browne can be reached on (571) 272-3670. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



A Elamin  
Primary Examiner  
Art Unit 2116

March 10, 2006